BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

As rescanning documents *will not* correct images, please do not report the images to the Image Problem Mailbox.

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:ssspta1649axm

PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * * * * * * Welcome to STN International * * * * * * * * * *

NEWS 1		Web Page URLs for STN Seminar Schedule - N. America
NEWS 2		"Ask CAS" for self-help around the clock
NEWS 3	Feb 24	PCTGEN now available on STN
NEWS 4	Feb 24	TEMA now available on STN
NEWS 5	Feb 26	NTIS now allows simultaneous left and right truncation
NEWS 6	Feb 26	PCTFULL now contains images
NEWS 7	Mar 04	SDI PACKAGE for monthly delivery of multifile SDI results
NEWS 8	Mar 24	PATDPAFULL now available on STN
NEWS 9	Mar 24	Additional information for trade-named substances without structures available in REGISTRY
NEWS 10	Apr 11	Display formats in DGENE enhanced
NEWS 11	Apr 14	MEDLINE Reload
NEWS 12	Apr 17	Polymer searching in REGISTRY enhanced
NEWS 13	AUG 15	Indexing from 1937 to 1946 added to records in CA/CAPLUS
NEWS 14	Apr 21	New current-awareness alert (SDI) frequency in WPIDS/WPINDEX/WPIX
NEWS 15	Apr 28	RDISCLOSURE now available on STN
NEWS 16	May 05	Pharmacokinetic information and systematic chemical names added to PHAR
NEWS 17	May 15	MEDLINE file segment of TOXCENTER reloaded
NEWS 18	May 15	Supporter information for ENCOMPPAT and ENCOMPLIT updated
NEWS 19	May 19	Simultaneous left and right truncation added to WSCA
NEWS 20	May 19	RAPRA enhanced with new search field, simultaneous left and right truncation
NEWS 21	Jun 06	Simultaneous left and right truncation added to CBNB
NEWS 22	Jun 06	PASCAL enhanced with additional data
NEWS 23	Jun 20	2003 edition of the FSTA Thesaurus is now available
NEWS 24	Jun 25	HSDB has been reloaded
NEWS 25	Jul 16	Data from 1960-1976 added to RDISCLOSURE
NEWS 26	Jul 21	Identification of STN records implemented
NEWS 27	Jul 21	Polymer class term count added to REGISTRY
NEWS 28	Jul 22	INPADOC: Basic index (/BI) enhanced; Simultaneous Left and Right Truncation available
NEWS 29	AUG 05	New pricing for EUROPATFULL and PCTFULL effective August 1, 2003
NEWS 30	AUG 13	Field Availability (/FA) field enhanced in BEILSTEIN
NEWS 31	AUG 15	PATDPAFULL: one FREE connect hour, per account, in September 2003
NEWS 32	AUG 15	PCTGEN: one FREE connect hour, per account, in September 2003
NEWS 33	AUG 15	RDISCLOSURE: one FREE connect hour, per account, in September 2003
NEWS 34	AUG 15	TEMA: one FREE connect hour, per account, in September 2003
NEWS 35	AUG 18	Data available for download as a PDF in RDISCLOSURE
NEWS 36	AUG 18	Simultaneous left and right truncation added to PASCAL
NEWS 37	AUG 18	FROSTI and KOSMET enhanced with Simultaneous Left and Right Truncation

```
 NEWS 38  AUG 18  Simultaneous left and right truncation added to ANABSTR

 NEWS EXPRESS  April 4 CURRENT WINDOWS VERSION IS V6.01a, CURRENT
               MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP),
               AND CURRENT DISCOVER FILE IS DATED 01 APRIL 2003
 NEWS HOURS    STN Operating Hours Plus Help Desk Availability
 NEWS INTER    General Internet Information
 NEWS LOGIN    Welcome Banner and News Items
 NEWS PHONE    Direct Dial and Telecommunication Network Access to STN
 NEWS WWW      CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that
specific topic.

  All use of STN is subject to the provisions of the STN Customer
  agreement.  Please note that this agreement limits use to scientific
  research.  Use for software development or design or implementation
  of commercial gateways or other similar uses is prohibited and may
  result in loss of user privileges and other penalties.

  * * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 15:19:21 ON 19 AUG 2003

=> file agricola caplus biosis
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.21       0.21

FILE 'AGRICOLA' ENTERED AT 15:19:31 ON 19 AUG 2003

FILE 'CAPLUS' ENTERED AT 15:19:31 ON 19 AUG 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'BIOSIS' ENTERED AT 15:19:31 ON 19 AUG 2003
COPYRIGHT (C) 2003 BIOLOGICAL ABSTRACTS INC.(R)

=> s retroelement?
L1         1019 RETROELEMENT?

=> s l1 and plant?
L2          375 L1 AND PLANT?

=> s l2 and reverse transcriptase
L3          138 L2 AND REVERSE TRANSCRIPTASE

=> s l3 and athila
L4            3 L3 AND ATHILA

=> dup rem l4
PROCESSING COMPLETED FOR L4
L5            3 DUP REM L4 (0 DUPLICATES REMOVED)

=> d 1-3 ti

L5   ANSWER 1 OF 3  CAPLUS  COPYRIGHT 2003 ACS on STN
TI   Nucleic acids related to plant retroelements and
     Athilla retroelements from Arabidopsis thaliana

L5   ANSWER 2 OF 3  BIOSIS  COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
TI   Athila4 of Arabidopsis and Calypso of soybean define a lineage of
     endogenous plant retroviruses.
```

L5 ANSWER 3 OF 3 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
TI Envelope-class retrovirus-like elements are widespread, transcribed and spliced, and insertionally polymorphic in **plants**.

=> d 1-3 ti

L5 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN
TI Nucleic acids related to **plant retroelements** and Athilla **retroelements** from Arabidopsis thaliana

L5 ANSWER 2 OF 3 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
TI Athila4 of Arabidopsis and Calypso of soybean define a lineage of endogenous **plant** retroviruses.

L5 ANSWER 3 OF 3 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
TI Envelope-class retrovirus-like elements are widespread, transcribed and spliced, and insertionally polymorphic in **plants**.

=> d 1-3 ab

L5 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN
AB The invention provides a family of **plant** retrovirus elements as well as nucleic acids, vectors, and polypeptides relating to those **retroelements**. More particularly, the invention provides nucleic acids of **retroelements** from distinct **Athila** families from Arabidopsis thaliana, designated Athila4-Athila9. Athila4 **retroelements** were cloned and sequences from Arabidopsis thaliana and consensus **retroelement** were constructed.

L5 ANSWER 2 OF 3 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
AB The **Athila retroelements** of Arabidopsis thaliana encode a putative envelope gene, suggesting that they are infectious retroviruses. Because most insertions are highly degenerate, we undertook a comprehensive analysis of the A. thaliana genome sequence to discern their conserved features. One family (Athila4) was identified whose members are largely intact and share >94% nucleotide identity. As a basis for comparison, related elements (the Calypso elements) were characterized from soybean. Consensus Calypso and Athila4 elements are 12-14 kb in length and have long terminal repeats of 1.3-1.8 kb. Gag and Pol are encoded on a single open reading frame (ORF) of 1801 (Calypso) and 1911 (Athila4) amino acids. Following the Gag-Pol ORF are noncoding regions of apprx0.7 and 2 kb, which, respectively, flank the env-like gene. The env-like ORF begins with a putative splice acceptor site and encodes a protein with a predicted central transmembrane domain, similar to retroviral env genes. RNA of **Athila** elements was detected in an A. thaliana strain with decreased DNA methylation (ddm1). Additionally, a PCR survey identified related reverse transcriptases in diverse angiosperm genomes. Their ubiquitous nature and the potential for horizontal transfer by infection implicates these endogenous retroviruses as important vehicles for **plant** genome evolution.

L5 ANSWER 3 OF 3 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
AB Retrotransposons and retroviruses share similar intracellular life cycles and major encoded proteins, but retrotransposons lack the envelope (env) critical for infectivity. Retrotransposons are ubiquitous and abundant in **plants** and active retroviruses are known in animals. Although a few env-containing **retroelements**, gypsy-like **Athila**, Cyclops, and Calypso and copia-like SIRE-1, have been identified in **plants**, the general presence and functionality of the domain remains unclear. We show here that env-class elements are present throughout the flowering **plants** and are widely transcribed.

Within the grasses, we show the transcription of the env domain itself for Bagy-2 and related retrotransposons, all members of the **Athila** group. Furthermore, Bagy-2 transcripts undergo splicing to generate a subgenomic env product as do those of retroviruses. Transcription and the polymorphism of their insertion sites in closely related barley cultivars suggests that at least some are propagationally active. The putative ENV polypeptides of Bagy-2 and rice Rigy-2 contain predicted leucine zipper and transmembrane domains typical of retroviral ENVs. These findings raise the prospect of active retroviral agents among the **plants**.

```
=> d 1-3 so

L5   ANSWER 1 OF 3  CAPLUS  COPYRIGHT 2003 ACS on STN
SO   PCT Int. Appl., 161 pp.
     CODEN: PIXXD2

L5   ANSWER 2 OF 3  BIOSIS  COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
SO   Genome Research, (January, 2002) Vol. 12, No. 1, pp. 122-131.
     http://www.genome.org/. print.
     ISSN: 1088-9051.

L5   ANSWER 3 OF 3  BIOSIS  COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
SO   Genome Research, (December, 2001) Vol. 11, No. 12, pp. 2041-2049.
     http://www.genome.org/. print.
     ISSN: 1088-9051.


=> d pi

L5   ANSWER 1 OF 3  CAPLUS  COPYRIGHT 2003 ACS on STN
     PATENT NO.          KIND  DATE           APPLICATION NO.  DATE
     ----------------    ----  --------       ---------------  --------
PI   WO 2003050259       A2    20030619       WO 2002-US39397  20021210
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
             LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
             PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA,
             UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG,
             CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
             PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
             MR, NE, SN, TD, TG


=> d 2-3 au

L5   ANSWER 2 OF 3  BIOSIS  COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
AU   Wright, David A.; Voytas, Daniel F. (1)

L5   ANSWER 3 OF 3  BIOSIS  COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
AU   Vicient, Carlos M.; Kalendar, Ruslan; Schulman, Alan H. (1)


=> s l3 and calypso?
L6            2 L3 AND CALYPSO?

=> d 1-2 t
'T' IS NOT A VALID FORMAT FOR FILE 'BIOSIS'

The following are valid formats:

The default display format is BIB.
```

```
ABS --------- AB
ALL --------- AN, DN, TI, AU, CS, PI, SO, NTE, DT, FS, LA, SL, AB,
              NCL, CC, BC, IT (CT, ST), CO, NA, GT, ORGN, RN, CN, GEN
BIB --------- AN, DN, TI, AU, CS, PI, SO, NTE, DT, FS, LA, SL
CBIB -------- AN, compressed bibliographic information
DALL -------- ALL, delimited for post-processing
IABS -------- ABS, with text label
IALL -------- ALL, indented with text labels
IBIB -------- BIB, indented with text labels
IIND -------- IND, indented with text labels
IND --------- NCL, CC, BC, IT (CT, ST), CO, NA, GT, ORGN, RN, CN, GEN
HIT --------- all fields containing hit search terms
HITIND ------ IND
KWIC -------- Hit terms plus 20 words on either side
OCC --------- number of occurrences of hit terms and fields
              in which they occur

Hit terms will be highlighted in all available fields except MY and
PY.

To display a particular field or fields,  enter the display field
codes.  For a list of display field codes, enter 'HELP DFIELDS'
at an arrow prompt (=>).  Examples of formats include: 'BIB';
'AB'; 'SO,ST'.  You may specify the format fields in any order,
and the information will be displayed in the same order as the
format specification.

The same formats (except for HIT, HITIND, KWIC, and OCC) may be
used with the DISPLAY ACC command to display the record for a
specified Accession Number.
ENTER DISPLAY FORMAT (BIB):ti

L6   ANSWER 1 OF 2  BIOSIS  COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
TI   Athila4 of Arabidopsis and Calypso of soybean define a lineage
     of endogenous plant retroviruses.

L6   ANSWER 2 OF 2  BIOSIS  COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
TI   Envelope-class retrovirus-like elements are widespread, transcribed and
     spliced, and insertionally polymorphic in plants.


=> s ((wright, d?)  or (wright d?))/au
L7        4966 ((WRIGHT, D?) OR (WRIGHT D?))/AU

=> s l7 and retroelement
L8           1 L7 AND RETROELEMENT

=> del l8 y

=> s l7 and retroelement?
L8           7 L7 AND RETROELEMENT?

=> dup rem l8
PROCESSING COMPLETED FOR L8
L9            5 DUP REM L8 (2 DUPLICATES REMOVED)

=> d 1-5 tiu
'TIU' IS NOT A VALID FORMAT
In a multifile environment, a format can only be used if it is valid
in at least one of the files.  Refer to file specific help messages
or the STNGUIDE file for information on formats available in
individual files.
REENTER DISPLAY FORMAT FOR ALL FILES (FILEDEFAULT):ti
```

```
L9   ANSWER 1 OF 5  CAPLUS  COPYRIGHT 2003 ACS on STN
TI   Nucleic acids related to plant retroelements and Athilla
     retroelements from Arabidopsis thaliana

L9   ANSWER 2 OF 5  CAPLUS  COPYRIGHT 2003 ACS on STN  DUPLICATE 1
TI   Athila4 of Arabidopsis and Calypso of soybean define a lineage of
     endogenous plant retroviruses

L9   ANSWER 3 OF 5  BIOSIS  COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
TI   Plant retroelements.

L9   ANSWER 4 OF 5  CAPLUS  COPYRIGHT 2003 ACS on STN
TI   Retroviruses in plants?

L9   ANSWER 5 OF 5  CAPLUS  COPYRIGHT 2003 ACS on STN  DUPLICATE 2
TI   Tagging chromatin with retrotransposons: target specificity of the
     Saccharomyces Ty5 retrotransposon changes with the chromosomal
     localization of Sir3p and Sir4p


=> d pi

L9   ANSWER 1 OF 5  CAPLUS  COPYRIGHT 2003 ACS on STN
     PATENT NO.         KIND  DATE           APPLICATION NO.  DATE
     ---------------    ----  --------       ---------------  --------
PI   WO 2003050259      A2    20030619       WO 2002-US39397  20021210
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
             LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
             PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA,
             UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG,
             CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
             PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
             MR, NE, SN, TD, TG


=> d 3 pi

L9   ANSWER 3 OF 5  BIOSIS  COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
PI   US 6331662 December 18, 2001


=> d 4 so

L9   ANSWER 4 OF 5  CAPLUS  COPYRIGHT 2003 ACS on STN
SO   Trends in Genetics (2000), 16(4), 151-152
     CODEN: TRGEE2; ISSN: 0168-9525


=> d 4 a
'A' IS NOT A VALID FORMAT
In a multifile environment, a format can only be used if it is valid
in at least one of the files.  Refer to file specific help messages
or the STNGUIDE file for information on formats available in
individual files.
REENTER DISPLAY FORMAT FOR ALL FILES (FILEDEFAULT):aab
'AAB' IS NOT A VALID FORMAT
In a multifile environment, a format can only be used if it is valid
in at least one of the files.  Refer to file specific help messages
or the STNGUIDE file for information on formats available in
individual files.
```

REENTER DISPLAY FORMAT FOR ALL FILES (FILEDEFAULT):ab

L9 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN
AB A review with 15 refs. Eukaryotic genomes harbor mobile genetic elements known as long terminal repeat (LTR) retrotransposons. LTR retrotransposons are closely related to the infectious and endogenous retroviruses, and they are collectively refered to as LTR **retroelements**. This review discusses the possibility of these elements being retroviruses, and their possible use as plant cloning vectors, and also how these putative retroviruses contribute naturally to interspecies gene flow.

=>
=> dis his

(FILE 'HOME' ENTERED AT 15:19:21 ON 19 AUG 2003)

FILE 'AGRICOLA, CAPLUS, BIOSIS' ENTERED AT 15:19:31 ON 19 AUG 2003
L1 1019 S RETROELEMENT?
L2 375 S L1 AND PLANT?
L3 138 S L2 AND REVERSE TRANSCRIPTASE
L4 3 S L3 AND ATHILA
L5 3 DUP REM L4 (0 DUPLICATES REMOVED)
L6 2 S L3 AND CALYPSO?
L7 4966 S ((WRIGHT, D?) OR (WRIGHT D?))/AU
L8 7 S L7 AND RETROELEMENT?
L9 5 DUP REM L8 (2 DUPLICATES REMOVED)

=> s ((voytas d?) or (voytas, d?))/au
L10 115 ((VOYTAS D?) OR (VOYTAS, D?))/AU

=> s l10 and retroelement?
L11 22 L10 AND RETROELEMENT?

=> dup rem l11
PROCESSING COMPLETED FOR L11
L12 13 DUP REM L11 (9 DUPLICATES REMOVED)

=> d 1-13 ti

L12 ANSWER 1 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN
TI Nucleic acids related to plant **retroelements** and Athilla **retroelements** from Arabidopsis thaliana

L12 ANSWER 2 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 1
TI The soybean **retroelement** SIRE1 uses stop codon suppression to express its envelope-like protein

L12 ANSWER 3 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 2
TI Genes of the Pseudoviridae (Ty1/copia retrotransposons)

L12 ANSWER 4 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 3
TI Athila4 of Arabidopsis and Calypso of soybean define a lineage of endogenous plant retroviruses

L12 ANSWER 5 OF 13 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
TI Plant **retroelements**.

L12 ANSWER 6 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 4
TI Expression and processing of proteins encoded by the Saccharomyces retrotransposon Ty5

L12 ANSWER 7 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN

TI Retroviruses in plants?

L12 ANSWER 8 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 5
TI Tagging chromatin with retrotransposons: target specificity of the Saccharomyces Ty5 retrotransposon changes with the chromosomal localization of Sir3p and Sir4p

L12 ANSWER 9 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 6
TI The yeast retrotransposon Ty5 uses the anticodon stem-loop of the initiator methionine tRNA as a primer for reverse transcription

L12 ANSWER 10 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 7
TI cDNA of the yeast retrotransposon Ty5 preferentially recombines with substrates in silent chromatin

L12 ANSWER 11 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 8
TI High frequency cDNA recombination of the Saccharomyces retrotransposon Ty5: the LTR mediates formation of tandem elements

L12 ANSWER 12 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN
TI **Retroelements** in genome organization

L12 ANSWER 13 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 9
TI Multiple molecular determinants for retrotransposition in a primer tRNA

=> d 2 so

L12 ANSWER 2 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 1
SO EMBO Reports (2003), 4(3), 274-277
CODEN: ERMEAX; ISSN: 1469-221X

=> d 2 ab

L12 ANSWER 2 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 1
AB The soybean SIRE1 family of Ty1/copia retrotransposons encodes an envelope-like gene (env-like). We analyzed the DNA sequences of nine SIRE1 insertions and obsd. that the gag/pol and env-like genes are in the same reading frame and sepd. by a single UAG stop codon. The six nucleotides immediately downstream of the stop codon conform to a degenerate nucleotide motif, CARYYA, which is sufficient to facilitate stop codon suppression in tobacco mosaic virus. In vivo stop codon suppression assays indicate that SIRE1 sequences confer leakiness to the UAG stop codon at an efficiency of 5%. These data suggest that SIRE1 retro-elements use translational suppression to express their envelope-like protein; this is in contrast with all characterized retroviruses, which express the envelope protein from a spliced genomic mRNA.

=> d 3 ab

L12 ANSWER 3 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 2
AB A comprehensive survey of the Pseudoviridae (Ty1/copia) **retroelement** family was conducted using the GenBank sequence database and completed genome sequences of several model organisms. Plant genomes were the most abundant sources of Pseudoviridae, with the Arabidopsis thaliana genome having 276 distinct elements. A reverse transcriptase amino acid sequence phylogeny indicated that the Pseudoviridae comprises highly divergent members. Coding sequences for a representative subset of elements were analyzed to identify conserved domains and differences that may underlie functional divergence. With the exception of some fungal elements (e.g., Ty1), most Pseudoviridae encode

Gag and Pol on a single open reading frame. In addn. to the nearly ubiquitous RNA-binding motif of nucleocapsid, three new conserved domains were identified in Gag. Pol-encoded aspartic protease was similar to the retroviral enzyme and could be mapped onto the HIV-1 structure. Pol was highly conserved throughout the family. The greatest divergence among Pol sequences was seen in the C-terminus of integrase (IN). We defined a large motif (GKGY) after the IN catalytic domain that is unique to the Pseudoviridae. Addnl., the extreme C-terminus of IN is rich in simple sequence motifs. A distinct lineage of Pseudoviridae in plants have envlike genes. This lineage has undergone a large expansion of Gag characterized by an .alpha.-helix-rich domain contg. coiled-coil motifs. In several elements, this domain is flanked on both sides by RNA-binding domains. We propose that this monophyletic lineage defines a new Pseudoviridae genus, herein referred to as the Agrovirus.

=> d 3 so

L12 ANSWER 3 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 2
SO Molecular Biology and Evolution (2002), 19(11), 1832-1845
CODEN: MBEVEO; ISSN: 0737-4038

=> d 12 ab

L12 ANSWER 12 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN
AB A review with 9 refs. on **retroelements** in maize, Arabidopsis thaliana and Saccharomyces cerevisiae genomes.

=> d 12 so

L12 ANSWER 12 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN
SO Science (Washington, D. C.) (1996), 274(5288), 737-738
CODEN: SCIEAS; ISSN: 0036-8075

WEST

Help | Logout | Interrupt

Main Menu | Search Form | Posting Counts | Show S Numbers | Edit S Numbers | Preferences | Cases

Search Results -

Terms	Documents
l4 and (gag or pol or env)	16

Database: US Patents Full-Text Database; US Pre-Grant Publication Full-Text Database; JPO Abstracts Database; EPO Abstracts Database; Derwent World Patents Index; IBM Technical Disclosure Bulletins

Search: Refine Search

Recall Text | Clear

Search History

DATE: Tuesday, August 19, 2003 Printable Copy Create Case

Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT; PLUR=YES; OP=ADJ			
L5	l4 and (gag or pol or env)	16	L5
L4	l3 and reverse transcriptase	27	L4
L3	l1 and plant	34	L3
L2	L1 and plnat	0	L2
L1	retroelement	53	L1

END OF SEARCH HISTORY